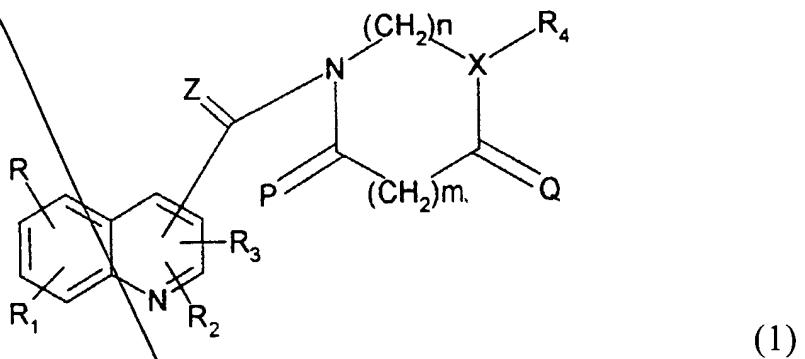


We claim:

- 1 1. A quinoline derivatives according to the formula 1

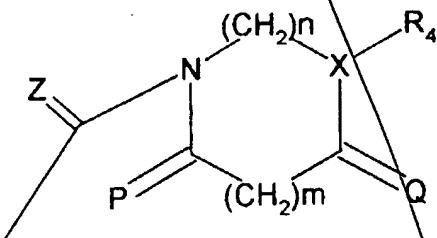


3 in which

4 R, R₁, R₂, R₃ can be attached to any of the quinoline carbon atoms C₂ to C₈,
5 are the same or different and independently of one another
6 denote hydrogen, straight-chain or branched C₁₋₈ alkyl,
7 hydroxyl, C₃₋₇ cycloalkyl, straight-chain or branched C₁₋₈
8 alkylcarbonyl, straight-chain or branched C₁₋₈ alkoxy,
9 halogen, aryl-C₁₋₈ alkoxy, nitro, amino, mono-C₁₋₄ alkylamino,
10 di-C₁₋₄ alkylamino, C₁₋₈ alkoxycarbonylamino, C₁₋₆
11 alkoxycarbonylamino-C₁₋₈ alkyl, cyano, straight-chain or
12 branched cyano-(C₁-C₆)-alkyl, carboxyl, C₁₋₈ alkoxycarbonyl,
13 C₁₋₄ alkyl which is substituted by one or more fluorine atoms,
14 carboxy-C₁₋₈ alkyl or C₁₋₈ alkoxycarbonyl-C₁₋₆ alkyl, C₂₋₆

15 alkenyl, C_{2-6} alkynyl, straight-chain or branched cyano- C_{1-6}
16 alkyl, aryl, where the aryl radical can be unsubstituted or
17 mono- or polysubstituted by the same or different substituents
18 from the group of halogen, straight-chain or branched C_{1-8}
19 alkyl, C_{3-7} cycloalkyl, carboxyl, straight-chain or branched C_{1-8}
20 alkoxy carbonyl, by trifluoromethyl, hydroxyl, straight-chain
21 or branched C_{1-8} alkoxy, benzyloxy, nitro, amino, mono- C_{1-4}
22 alkylamino, di- C_{1-4} alkylamino, cyano, straight-chain or
23 branched cyano- C_{1-6} alkyl, where R and R₁ or R₂ and R₃ can
24 form a fused aromatic 6-membered ring with the quinoline
25 ring forming an acridine ring which can be substituted at any
26 C atom ring position by the radicals R, R₁, R₂ and R₃ having
27 the meanings mentioned above;

28 Z is oxygen or sulfur, where the radical



29

substituted on the quinoline heterocycle can be attached to C atoms C₂₋₈ of the quinoline ring;

32 X₅ is nitrogen or C-R₅, where R₅ is hydrogen or C₁₋₆ alkyl;

Su b
33 n,m are independently of one another a cardinal number between 0 and
34 3, with the proviso that when n is 0, X is a CR₅R₆ group wherein R₅
35 and R₆ are independently of one another hydrogen or C₁₋₆ alkyl, and
36 that the nitrogen atom adjacent to the C=Z group is substituted by a
37 hydrogen atom or a C₁₋₆ alkyl group;

38 R₄ is a straight-chain or branched C₁₋₂₀ alkyl radical which can be
39 saturated or unsaturated, with one to three double and/or triple
40 bonds, and which can be unsubstituted or can optionally be
41 substituted at the same or different C atoms by one, two or more
42 aryl, heteroaryl, halogen, cyano, C=NH (NH₂), C₁₋₆
43 alkoxy carbonyl amino, C₁₋₆ alkoxy, amino, mono-C₁₋₄ alkyl amino or
44 di-C₁₋₄ alkyl amino; C₁₋₄ alkoxy carbonyl, a C₆₋₁₄ aryl radical, C₆₋₁₄
45 aryl-C₁₋₄ alkyl radical, or a a C₂₋₁₀ heteroaryl or C₂₋₁₀ heteroaryl-C₁₋₄
46 alkyl radical which contains one or more heteroatoms N, O and S,
47 where the C₁₋₄ alkyl radical can be unsubstituted or mono- or
48 polysubstituted by the same or different substituents from the group
49 of C₁₋₆ alkyl, halogen or oxo (=O), and where the C₆₋₁₄ aryl or C₂₋₁₀
50 heteroaryl radical can be unsubstituted or mono- or polysubstituted

51 by the same or different substituents from the group of straight-chain
52 or branched C₁₋₈ alkyl, C₃₋₇ cycloalkyl, halogen, cyano, C₁₋₆
53 alkoxycarbonylamino, C₁₋₆ alkoxy, carboxyl, C₁₋₈ alkoxycarbonyl,
54 straight-chain or branched C₁₋₆ alkyl which is substituted by one or
55 more fluorine atoms, hydroxyl, straight-chain or branched C₁₋₈
56 alkoxy, where adjacent oxygen atoms may also be linked by C₁₋₂
57 alkylene groups, benzyloxy, nitro, amino, mono-C₁₋₄ alkylamino, di-
58 C₁₋₄ alkylamino, aryl, which can be unsubstituted or mono- or
59 polysubstituted by the same or different substituents from the group
60 of straight-chain or branched C₁₋₈ alkyl, C₃₋₇ cycloalkyl, carboxyl,
61 straight-chain or branched C₁₋₈ alkoxycarbonyl, trifluoromethyl,
62 hydroxyl, straight-chain or branched C₁₋₈ alkoxy, benzyloxy, nitro,
63 amino, mono-C₁₋₄ alkylamino, di-C₁₋₄ alkylamino, cyano, straight-
64 chain or branched cyano-C₁₋₆ alkyl;

65 and their structural isomers and stereoisomers, particularly
66 tautomers, diastereomers and enantiomers, and their
67 pharmaceutically acceptable salts.

-
- 1 2. The quinoline derivative of claim 1, wherein
2 in R, R₁, R₂, and R₃, said C₁₋₈ alkylcarbonyl is acetyl, said C₁₋₈ alkoxy is
3 benzyloxy or phenylethoxy, said fluorine atoms are trifluoromethyl,
4 said C₂₋₆ alkenyl is allyl, said C₂₋₆ alkynyl is ethynyl or propargyl,

1 said cyano-C₁₋₆ alkyl is cyanomethyl, said C₁₋₈ alkoxy- carbonyl is
2 tert-butoxycarbonyl, and said C₁₋₈ alkoxy is methoxy or ethoxy, and
3 in R₄ said fluorine atoms are trifluoromethyl, said C₁₋₈ alkoxy is methoxy
4 or ethoxy, and said C₁₋₂ alkylene group is a methylene group.

1 3. The quinoline derivative of formula 1 of claim 1, wherein R, R1, R2,
2 R3, X, Z, P, Q, n and m have the meanings given in claim 1

3 R4 is a straight-chain or branched C₁₋₂₀ alkyl radical which can be
4 saturated or unsaturated, with one to three double and/or triple
5 bonds, and which can be unsubstituted or optionally substituted
6 on the same or different C atoms by one, two or more aryl,
7 heteroaryl, halogen, C₁₋₆ alkoxy, amino, mono- C₁₋₄ alkylamino
8 or di-C₁₋₄ alkylamino;

9 a phenyl ring or a naphthyl ring, each of which can be
10 unsubstituted or mono- or polysubstituted by the same or
11 different substituents from the group of straight-chain or

12 branched C₁₋₈ alkyl, C₃₋₇ cycloalkyl, halogen, cyano, C₁₋₆
13 alkoxy carbonylamino, C₁₋₆ alkoxy, carboxyl, C₁₋₈
14 alkoxy carbonyl, straight-chain or branched C₁₋₆ alkyl which is
15 substituted by one or more fluorine atoms, hydroxyl, straight-
16 chain or branched C₁₋₈ alkoxy, benzyloxy, nitro, amino, mono-
17 C₁₋₄ alkylamino, di-C₁₋₄ alkylamino, aryl, which can be
18 unsubstituted or mono- or polysubstituted by the same or
19 different substituents from the group of straight-chain or
20 branched C₁₋₈ alkyl, C₃₋₇ cycloalkyl, carboxyl, straight-chain or
21 branched C₁₋₈ alkoxy carbonyl, by trifluoromethyl, hydroxyl,
22 straight-chain or branched C₁₋₈ alkoxy, benzyloxy, nitro, amino,
23 mono-C₁₋₄ alkylamino, di-C₁₋₄ alkylamino, cyano, straight-chain
24 or branched cyano- C₁₋₆ alkyl;
25 a 2-, 4-, 5- or 6-pyrimidinyl radical, or a 2-, 4-, 5- or 6-
26 pyrimidinyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl radical can
27 be unsubstituted or mono- or polysubstituted by the same or
28 different substituents from the group of C₁₋₆ alkyl, halogen or

29 oxo (=O), and the 2-, 4-, 5- or 6-pyrimidinyl radical can be
30 unsubstituted or mono- or up to trisubstituted by the same or
31 different substituents from the group of hydrogen, or Y

32 wherein Y is a C₁₋₆ alkyl, halogen, nitro, amino, mono-C₁₋₆ alkylamino, di-
33 C₁₋₆ alkylamino, hydroxyl, C₁₋₆ alkoxy, benzyloxy, carboxyl, C₁₋₆
34 alkoxycarbonyl, C₁₋₆ alkoxycarbonylamino or C₁₋₆ alkyl which is
35 mono- or polysubstituted by fluorine, C₆₋₁₀ aryl and C₆₋₁₀ aryl-
36 C₁₋₆ alkyl;
37 a 3-, 4-, 5- or 6-pyridazinyl radical, or a 3-, 4-, 5- or 6-
38 pyridazinyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl radical can
39 be unsubstituted or mono- or polysubstituted by the same or
40 different substituents from the group of C₁₋₆ alkyl, halogen or
41 oxo (=O), and the 3-, 4-, 5- or 6-pyridazinyl radical can be
42 unsubstituted or mono- or up to trisubstituted by the same or
43 different substituents from the group of hydrogen, or Y;

44 a 2-, 3-, 5- or 6-pyrazinyl radical, or a 2-, 3-, 5- or 6-pyrazinyl-
45 C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl radical can be
46 unsubstituted or mono- or polysubstituted by the same or
47 different substituents from the group of C₁₋₆ alkyl, halogen or
48 oxo (=O), and the 2-, 3-, 5- or 6-pyrazinyl radical can be
49 unsubstituted or mono- or up to trisubstituted by the same or
50 different substituents from the group of hydrogen, or Y;
51 a 3-, 4-, 5-, 6-, 7-, or 8-cinnolinyl radical, or a 3-, 4-, 5-, 6-, 7-, or
52 8-cinnolinyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl radical can
53 be unsubstituted or mono- or polysubstituted by the same or
54 different substituents from the group of C₁₋₆ alkyl, halogen or
55 oxo (=O), and the 3-, 4-, 5-, 6-, 7-, or 8-cinnolinyl radical can be
56 unsubstituted or mono- or up to pentasubstituted by the same or
57 different substituents from the group of hydrogen, or Y;
58 a 2-, 4-, 5-, 6-, 7-, or 8-quinazolinyl radical, or a 2-, 4-, 5-, 6-, 7-
59 , or 8-quinazolinyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl
60 radical can be unsubstituted or mono- or polysubstituted by the

61 same or different substituents from the group of hydrogen, C₁₋₆
62 alkyl, halogen or oxo (=O), and the 2-, 4-, 5-, 6-, 7-, or
63 8-quinazolinyl radical can be unsubstituted or mono- or up to
64 pentasubstituted by the same or different substituents from the
65 group of hydrogen, or Y;

66 a 2-, 3-, 5-, 6-, 7-, or 8-quinoxaliny radical, or a 2-, 3-, 5-, 6-, 7-
67 , or 8-quinoxaliny-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl
68 radical can be unsubstituted or mono- or polysubstituted by the
69 same or different substituents from the group of C₁₋₆ alkyl,
70 halogen or oxo (=O), and the 2-, 3-, 5-, 6-, 7-, or 8-quinoxaliny
71 radical can be unsubstituted or mono- or up to pentasubstituted
72 by the same or different substituents from the group of
73 hydrogen, or Y;

74 a 1-, 4-, 5-, 6-, 7-, or 8-phthalazinyl radical, or a 1-, 4-, 5-, 6-, 7-
75 , or 8-phthalazinyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl
76 radical can be unsubstituted or mono- or polysubstituted by the

77 same or different substituents from the group of C₁₋₆ alkyl,
78 halogen or oxo (=O), and the 1-, 4-, 5-, 6-, 7-, or 8-phthalazinyl
79 radical can be unsubstituted or mono- or up to pentasubstituted
80 by the same or different substituents from the group of
81 hydrogen, or Y;

82 a 2-, 3-, 4-, 5-, 6-, 7- or 8-quinolyl radical, or a 2-, 3-, 4-, 5-, 6-,
83 7 or 8-quinolyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl radical
84 can be unsubstituted or mono- or polysubstituted by the same or
85 different substituents from the group of C₁₋₆ alkyl, halogen or
86 oxo (=O), and the 2-, 3-, 4-, 5-, 6-, 7- or 8-quinolyl radical can
87 be unsubstituted or mono- or up to hexasubstituted by the same
88 or different substituents from the group of hydrogen, or Y;

89 a 1-, 3-, 4-, 5-, 6-, 7- or 8-isoquinolyl radical, or a 1-, 3-, 4-, 5-,
90 6-, 7- or 8-isoquinolyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl
91 radical can be unsubstituted or mono- or polysubstituted by the
92 same or different substituents from the group of C₁₋₆ alkyl,

halogen or oxo (=O), and the 1-, 3-, 4-, 5-, 6-, 7- or 8-isoquinolyl radical can be unsubstituted or mono- or up to hexasubstituted by the same or different substituents from the group of hydrogen, or Y;

a 2-, 6-, 8- or 9-[9H]-purinyl radical, or a 2-, 6-, 8- or 9-[9H]-purinyl-C₁₋₄ alkyl radical, wherein the C₁₋₆ alkyl radical can be unsubstituted or mono- or polysubstituted by the same or different substituents from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 2-, 6-, 8- or 9-[9H]-purinyl radical can be unsubstituted or mono- to trisubstituted by the same or different substituents from the group of hydrogen, or Y;

a 2-, 6-, 7- or 8-[7H]-purinyl radical, or a 2-, 6-, 7- or 8-[7H]-purinyl-C₁₋₄ alkyl radical, wherein the C₁₋₄ alkyl radical can be unsubstituted or mono- or polysubstituted by the same or different substituents from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 2-, 6-, 7- or 8-[7H]-purinyl radical can be

111 a 1-, 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-acridinyl radical, or a 1-, 2-, 3-,
112 4-, 5-, 6-, 7-, 8- or 9-acridinyl-C₁₋₄ alkyl radical, where the C₁₋₆
113 alkyl radical can be unsubstituted or mono- or polysubstituted by

the same or different substituents from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 1-, 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-acridinyl radical can be unsubstituted or mono- to octasubstituted by the same or different substituents from the group of hydrogen, or Y;

119 a 1-, 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-phenanthridinyl radical, or a 1-,
120 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-phenanthridinyl-C₁₋₆ alkyl radical,
121 wherein the C₁₋₆ alkyl radical can be unsubstituted or mono- or
122 polysubstituted by the same or different substituents from the
123 group of hydrogen, C₁₋₆ alkyl, halogen or oxo (=O), and the 1-,
124 2-, 3-, 4-, 5-, 6-, 7-, 8- or 9-phenanthridinyl radical can be

125 unsubstituted or mono- or up to octasubstituted by the same or
126 different substituents of Y;

127 a 2-, 3-, 4-, 5- or 6-pyridyl radical where the 2-, 3-, 4-, 5- or 6-
128 pyridyl radical can be unsubstituted or mono- or up to
129 tetrasubstituted by the same or different substituents from the
130 group of hydrogen, or Y;

131 a 2-, 3-, 4-, 5- or 6-pyridinyl-C₁₋₆ alkyl radical, wherein the C₁₋₆
132 alkyl radical can be unsubstituted or mono- or polysubstituted by
133 the same or different substituents from the group of C₁₋₆ alkyl,
134 halogen or oxo (=O), and the 2-, 3-, 4-, 5- or 6-pyridinyl radical
135 can be unsubstituted or mono- or up to tetrasubstituted by the
136 same or different substituents from the group of hydrogen, or Y;

137 a 2-, 3-, 4- or 5-thienyl radical, or a 2-, 3-, 4- or 5-thienyl- C₁₋₆
138 alkyl radical, wherein the C₁₋₆ alkyl radical can be unsubstituted
139 or mono- or polysubstituted by the same or different substituents

140 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 2-, 3-,
141 4- or 5-thienyl radical can be unsubstituted or mono- or up to
142 trisubstituted by the same or different substituents from the
143 group of hydrogen, or Y;

144 a 2-, 4-, or 5-thiazolyl radical, or a 2-, 4-, or 5-thiazolyl C₁₋₆ alkyl
145 radical, wherein the C₁₋₆ alkyl radical can be unsubstituted or
146 mono- or polysubstituted by the same or different substituents
147 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 2-, 4-,
148 or 5-thiazolyl radical can be unsubstituted or mono- or
149 disubstituted by the same or different substituents from the
150 group of hydrogen, or Y;

151 a 3-, 4-, or 5-isothiazolyl radical, or a 3-, 4-, or 5-isothiazolyl-C₁₋
152 ₆ alkyl radical, wherein the C₁₋₆ alkyl radical can be unsubstituted
153 or mono- or polysubstituted by the same or different substituents
154 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 3-, 4-,
155 or 5-isothiazolyl radical can be unsubstituted or mono- or

156 disubstituted by the same or different substituents from the
157 group of hydrogen, or Y;

158 a 2-, 4-, 5-, 6-, or 7-benzothiazolyl radical, or a 2-, 4-, 5-, 6-, or
159 7-benzothiazolyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical
160 can be unsubstituted or mono- or polysubstituted by the same or
161 different substituents from the group of C₁₋₆ alkyl, halogen or
162 oxo (=O), and the 2-, 4-, 5-, 6-, or 7-benzothiazolyl radical can
163 be unsubstituted or mono- or up to tetrasubstituted by the same
164 or different substituents from the group of hydrogen, or Y;

165 a 1-, 2-, 4-, or 5-imidazolyl radical, or a 1-, 2-, 4-, or 5-
166 imidazolyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can
167 be unsubstituted or mono- or polysubstituted by the same or
168 different substituents from the group of C₁₋₆ alkyl, halogen or
169 oxo (=O), and the 1-, 2-, 4-, or 5-imidazolyl radical can be
170 unsubstituted or mono- or up to trisubstituted by the same or
171 different substituents from the group of hydrogen, or Y;

172 a 1-, 3-, 4-, or 5-pyrazolyl radical, or a 1-, 3-, 4- or 5-pyrazolyl-
173 C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can be
174 unsubstituted or mono- or polysubstituted by the same or
175 different substituents from the group of C₁₋₆ alkyl, halogen or
176 oxo (=O), and the 1-, 3-, 4- or 5-pyrazolyl radical can be
177 unsubstituted or mono- or up to trisubstituted by the same or
178 different substituents from the group of hydrogen, or Y;

179 a 1-, 2-, 3-, 4-, or 5-pyrrolyl radical, or a 1-, 2-, 3-, 4-, or 5-
180 pyrrolyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can be
181 unsubstituted or mono- or polysubstituted by the same or
182 different substituents from the group of C₁₋₆ alkyl, halogen or
183 oxo (=O), and the 1-, 2-, 3-, 4- or 5-pyrrolyl radical can be
184 unsubstituted or mono- or up to tetrasubstituted by the same or
185 different substituents from the group of hydrogen, or Y;

186 a 1-, 3-, or 5-[1.2.4]-triazolyl radical, or a 1-, 3-, or 5-[1.2.4]-
187 triazolyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can be

188 unsubstituted or mono- or polysubstituted by the same or
189 different substituents from the group of hydrogen, C₁₋₆ alkyl,
190 halogen or oxo (=O), and the 1-, 3-, or 5-[1.2.4]-triazolyl radical
191 can be unsubstituted or mono- or disubstituted by the same or
192 different substituents from Y;

193 a 1-, 4-, or 5-[1.2.3]-triazolyl radical, or a 1-, 4-, or 5-[1.2.3]-
194 triazolyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can be
195 unsubstituted or mono- or polysubstituted by the same or
196 different substituents from the group of C₁₋₆ alkyl, halogen or
197 oxo (=O), and the 1-, 4-, or 5-[1.2.3]-triazolyl radical can be
198 unsubstituted or mono- or disubstituted by the same or different
199 substituents from the group of hydrogen, or Y;

200 a 1- or 5-[1H]-tetrazolyl radical, or a 1-, or 5-[1H]-tetrazolyl-C₁₋₆
201 alkyl radical, wherein the C₁₋₆ alkyl radical can be unsubstituted
202 or mono- or polysubstituted by the same or different substituents
203 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 1-, or

204 5-[1*H*]-tetrazolyl radical can be unsubstituted or substituted by
205 hydrogen, or Y;

206 a 2- or 5-[2*H*]-tetrazoYL radical, or a 2- or 5-[2*H*]-tetrazolyl-C₁₋₆
207 alkyl radical, wherein the C₁₋₆ alkyl radical can be unsubstituted
208 or mono- or polysubstituted by the same or different substituents
209 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 2- or
210 5-[2*H*]-tetrazolyl radical can be unsubstituted or substituted by
211 hydrogen, or Y;

212 a 2-, 4-, or 6-[1.3.5]-triazinyl radical, or a 2-, 4-, or 6-[1.3.5]-
213 triazinyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can be
214 unsubstituted or mono- or polysubstituted by the same or
215 different substituents from the group of hydrogen, C₁₋₆ alkyl,
216 halogen or oxo (=O), and the 2-, 4-, or 6-[1.3.5]-triazinyl radical
217 can be unsubstituted or mono- or disubstituted by the same or
218 different substituents from the group of hydrogen, or Y;

219 a 2-, 4-, or 5-oxazolyl radical, or a 2-, 4-, or 5-oxazolyl-C₁₋₆ alkyl
220 radical, wherein the C₁₋₆ alkyl radical can be unsubstituted or
221 mono- or polysubstituted by the same or different substituents
222 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 2-, 4-,
223 or 5-oxazolyl radical can be unsubstituted or mono- or
224 disubstituted by the same or different substituents from the
225 group of hydrogen, or Y;

226 a 3-, 4-, or 5-isoxazolyl radical, or a 3-, 4-, or 5-isoxazolyl-C₁₋₆
227 alkyl radical, wherein the C₁₋₆ alkyl radical can be unsubstituted
228 or mono- or polysubstituted by the same or different substituents
229 from the group of C₁₋₆ alkyl, halogen or oxo (=O), and the 3-, 4-,
230 or 5-isoxazolyl radical can be unsubstituted or mono- or
231 disubstituted by the same or different substituents from the
232 group of hydrogen, or Y;

233 a 1-, 2-, 3-, 4-, 5-, 6- or 7-indolyl radical, or a 1-, 2-, 3-, 4-, 5-, 6-
234 or 7-indolyl-C₁₋₆ alkyl radical, wherein the C₁₋₆ alkyl radical can

235 be unsubstituted or mono- or polysubstituted by the same or
236 different substituents from the group of C₁₋₆ alkyl, halogen or
237 oxo (=O), and the 1-, 2-, 3-, 4-, 5-, 6- or 7-indolyl radical can be
238 unsubstituted or mono- or up to hexasubstituted by the same or
239 different substituents from the group of hydrogen, or Y.

✓
4. The pyridine derivative of claim 3, wherein in R₄ said fluorine atoms
are trifluoromethyl, and said C₁₋₈ alkoxy is methoxy or ethoxy.

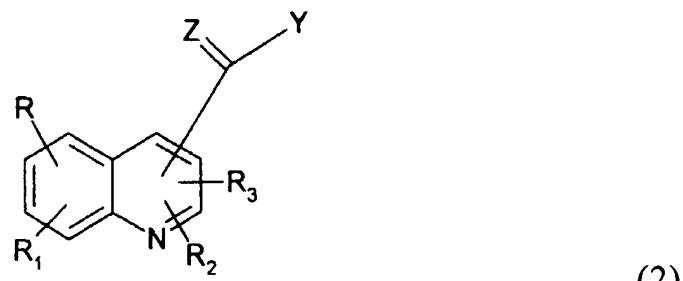
✓
5. The quinoline derivative of claim 1, wherein R, R₁, R₂, R₃, X, Z, P,
Q, n and m have the meanings given above, and R₄ is phenyl which
is unsubstituted or substituted by one to five the same or different
C₁₋₆ alkoxy groups, where adjacent oxygen atoms can also be linked
by C₁₋₂ alkylene groups.

✓
6. The quinoline derivative of claim 1, wherein R, R₁, R₂, R₃, X, Z, P,
Q, n and m have the meanings given above and R₄ is 3,5-
dimethoxyphenyl.

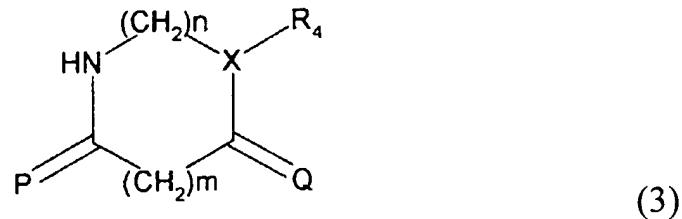
1 7. The quinoline derivative of claim 1, wherein R₄ has the meanings
2 given above, R, R₁, R₂, R₃ each is hydrogen, Z is an oxygen atom, X
3 is a nitrogen atom, P and Q are each two hydrogen atoms as in
4 -CH2-, m is zero, and n is 2.

1 8. The quinoline derivative of claim 1, wherein R, R₁, R₂, R₃ are each a
2 hydrogen atom, Z is an oxygen atom, X is a nitrogen atom, P and Q
3 each are two hydrogen atoms as in -CH2-, m is zero, n is 2, and R₄ is
4 a 3,5-dimethoxyphenyl radical.

1 9. A process for preparing the quinoline derivative of claim 1, which
2 comprises reacting a quinoline carboxylic acid of formula (2)



4 in which R, R1, R2, R3 have the meanings given above, Z is an
5 oxygen or sulfur atom, and Y is a leaving group with an amine of
6 formula (3)



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in which R4, X, P, Q, m and n have the meanings given above,
optionally in the presence of diluents and auxiliaries.

1 10. The process of claim 10, wherein said leaving group is halogen,
2 hydroxyl, C₁₋₆ alkoxy, -O-tosyl, -O-mesyl, or imidazolyl.

1 11. The process of claim 10, wherein said C₁₋₆ alkoxy is methoxy or
2 ethoxy.

1 12. A therapeutic method for treating tumors in mammals, which
2 comprises administering to a mammal in need therefor at least one
3 quinoline derivative of claim 1 in a tumor treatment effective dose.

1 13. A medicament which comprises as active ingredient at least one
2 quinoline derivative according of claim 1, ✓ together with
3 conventional pharmaceutically acceptable auxiliaries, additives and
4 carriers.

1 14. The pharmaceutically acceptable acid addition salt of the quinoline
2 derivative of claim 1, when formed with one of the acids
3 hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid,
4 fumaric acvid, succinic acid, lactic acid, citric acid, acetic acid,
5 tartaric acid, malic acid, maleic acid, embonic acid, malonic acid,
6 trifluoroacetic acid, metanesulfonic acid, and sulfoacetic acid.